Foliar Nematodes

Foliar nematodes, *Aphelenchoides* spp., have been found on over 200 different host species. Some of the more common hosts include strawberry, hosta, fern, begonia, chrysanthemum, dahlia, phlox, verbena, zinnia, carnation, ficus, gloxinia, impatiens, lily, and African violet.

As the name implies, foliar nematodes attack the leaves of plants. The first symptoms appear as water-soaked lesions that develop between, and are delimited by, the leaf veins. This may give the lesions the appearance of an angular leafspot on some plants with a netted veination pattern. If the margin of the lesion has not encountered a leaf vein, then the lesion will not yet have this characteristic shape until a vein is encountered. The length of the lesions will run parallel to the leaf veins in plants with parallel venation. As damage increases, the tissue becomes necrotic and dries out leaving a large dead patch of tissue. Depending on the host plant, these lesion may or may not have a yellow halo. As lesions increase in size, the nematodes may cross leaf veins and start new lesions. On some plants, such as strawberry, infected plants may have a dwarfed, misshapen form if developing buds are affected.

Foliar nematodes feed on the parenchyma tissue inside leaves and leave the epidermal cells intact. This is why the initial lesion appears to be water soaked. As the nematode feeds, it reproduces inside the leaves. Each female will lay about 30 eggs which will hatch and begin to reproduce in about 10-14 days. If the tissue dries out, certain developmental stages of the nematode can become dormant. While dormant, they are very difficult to kill. They can remain viable in dried leaf tissue for over a year and then resume their life cycle when water becomes available. These nematodes can be found in most foliar tissue (leaves, stems, buds, crowns) of susceptible plants as well as in the soil.

Removing infected leaves (sanitation) can help reduce spread, but infected plants are very hard to rid of all nematodes. Usually, there will be many nematodes at the growing buds and crown of the plant. As soon as there is water on the surface of the plant, the nematodes will move up the outside of the plant in this film of water to infect the new leaves. **It is best to remove and destroy ALL plants that show**

any symptoms of infection. If individual plants are of sufficient value (such as breeding stock or rare ornamentals), then a combination of nematicides and hot water dips can be used to try to rid the plant of infection. It must be noted that these methods are only partially successful and some plants will never be rid of the nematodes. Nematicide options on ornamentals, especially landscape plantings, are extremely limited. If trying to rid plants of foliar nematodes, you must segregate infected plants from healthy plants to prevent or slow down an epidemic.

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